



Huron River Report

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FALL 2021



feature story

Sowing Seeds for the Huron

Local farmer collaborations are conserving soil, land, and water quality

For most of its history, HRWC has focused on addressing water quality problems caused by urban and suburban development.

The migration and settlement of thousands of people on land that was previously sparsely and transiently occupied led to numerous changes to the watershed, such as stream flow alteration and pollution, which have been well-documented. Settlement also resulted in the clearing and alteration of the land for agricultural production.

Farming has many known impacts on water resources, from draining wetlands to altering stream channels and nutrient runoff. Many farmers also work to improve soil health, minimize or eliminate nutrient runoff, and make their farms more productive and less risky in the process. Underlying all of this is an important truth: an ecologically managed farm

has much less impact on rivers and streams than the best run city or suburb.

Farming in the watershed

The Huron River watershed is notable for its diverse landscape. Indigenous people settled along the river and farmed the fertile floodplains and some uplands. The earliest European settlements were also self-sustaining agrarian communities. Over time, as more people moved into the watershed, more forest and grasslands were cleared and wetlands drained to feed the growing population.

Today, the most agriculturally productive regions of the watershed are in Arms and Boyden Creeks (49% agriculture), Mill Creek (48%), Davis Creek (41%), and Portage Creek (33%). Farms in the watershed are generally smaller than those south

of the Huron River in lower Michigan and Ohio, and many remain family-owned and operated. While corn and soybeans are the most prominent crops, many farmers grow wheat, hay, and specialty crops like sweet corn, fresh market vegetables, tofu soybeans, and crops for seeds.

Livestock production also has a presence. Integrating livestock with crop production can improve nutrient management and reduce input costs for field crops. Farm partnerships across sectors allow for timely manure application for maximum crop utilization. Improvements in technology have shifted livestock and crop residue waste into valuable soil amendments that improve nutrient availability, water infiltration and retention, while reducing erosion of soil and plant

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Crows in the Watershed

These big-brained birds are smart!

Fascinating to many, considered a pooppy pest by others, the American Crow is a valuable member of the Huron River watershed ecosystem.

Crow biology and behavior

The American Crow (*Corvus brachyrhynchos*) ranges over most of

the United States and Canada. They can be distinguished from their larger cousins, ravens, by their "caw" call and the shape of their tail in flight; it makes a spade shape, while raven tails fan out. Also, it is rare to see a raven in the Huron watershed as it

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INSIDE: UPCOMING EVENTS AND WORKSHOPS *Dioxane cleanup milestone*
Leave No Trace visits the 'shed | Water conservation, droughts, and flooding | Volunteer Spotlight: Craig Kivi





Rebecca's Stream of Consciousness

Some days, protecting our water and waterways feels like an uphill battle. The problems seem daunting and the solutions unachievable. In August of 2020, Michigan took action to protect Michiganders from seven PFAS chemicals being found in groundwater and surface waters throughout the state, including in the Huron River. We now live with a do-not-eat fish advisory that has been in place since 2018 and will remain for some time. The City of Ann Arbor has had to make significant investments in drinking water treatment to ensure safe drinking water for its residents. The human health risks are many, and we are only beginning to understand the long-term impacts of these forever chemicals on wildlife and ecosystem health.

HRWC continues to reach out to community members about the status of the contamination, the fish and foam advisories, and opportunities to support state-level action to prevent further contamination here and elsewhere. This summer, we worked with the Department of Health and Human Services to deploy "Riverwalkers"—people who patrol parks and favorite fishing spots to remind anglers of the fish advisory. We publish blogs and social media posts to keep folks safe. We participate in the State's Citizen's Advisory Workgroup. We liaise regularly with EGLE staff in charge of testing waters in the Huron River, creating the two-way conversation necessary to develop a solid monitoring program and ensure timely exchange of new information. We seek opportunities in the press to educate the public on the issues and push for prudence by state and federal legislators and regulators.

As I write this, the State is working to establish permanent PFAS groundwater cleanup standards based on the drinking water

standards. Currently, the drinking water standards are being used as temporary levels by default. Establishing permanent regulations is a critical next step that will help keep the 25% of Michigan households that rely on municipal groundwater for their drinking water, safe. Since private residential wells are not protected by state municipal drinking water standards, groundwater cleanup standards are often the only line of defense for private well owners.

PFAS pollution has mobilized an army of advocates—affected citizens, scientists, environmental organizations, drinking water providers and public health professionals. We are many, we are organized and we are fighting. We are making progress.

In April, 3M—a chemical manufacturing giant—sued the State of Michigan for its PFAS regulations, citing a "rushed and invalid regulatory process." 3M is the manufacturer of ScotchGard which contains PFAS chemicals. This is the same company that a Detroit Free Press investigation (May 9, 2019) found to be aware of and hiding the dangers of PFAS for decades. Frequently when a corporation stands to lose, they sue. Thanks to an imbalance in financial resources, they often come out on top. Even if they don't, they effectively buy themselves years, if not decades, to continue their business as usual or to gently adapt to a new future, all at a cost to public health and the environment. It may be the most infuriating aspect of this line of work.

In response, several heavy hitters have joined forces for an early intervention to defend Michigan's PFAS regulations. The Great Lakes Environmental Law Center, Natural Resources Defense Council, National Wildlife Federation, Ecology Center, Environmental Law and Policy



Center, For the Love of Water, Michigan Environmental Council, Sierra Club, PFAS Alliance, Tip of the Mitt Watershed Council, and HRWC submitted an amicus brief supporting the State's PFAS drinking water standards. The goal of the brief is to describe how PFAS has affected our communities and to make clear to the court how important these protections are for the well-being of Michiganders. This brief was denied and will not be considered in the court's decision about whether or not to dismiss the case.

It is yet another David and Goliath story. I find comfort in that list of names above; the dedicated, relentless advocates for a better world, that we fight alongside, sharing expertise, knowledge, strategy and strength. While the opponents can seem formidable and the solutions complex and precarious, I feel grateful to our partners and derive strength from our numbers, our passion and our expertise. The cause is righteous. And we will continue to advocate for stronger protections from PFAS until we achieve our goals. We will never relinquish. We will never give up. Who's with me?

— Rebecca Esselman
HRWC Executive Director
[@natureiswater](https://twitter.com/natureiswater)



Innovators Fund Germinates Collaboration

The power of plants in the fight for healthy rivers

One of the best ways to protect the Huron River from stormwater runoff pollution is to utilize Green Stormwater Infrastructure (GSI). GSI is a technical way of saying, "Let's use nature-based solutions to protect clean water!" GSI captures rain runoff at its source and filters it through plants. Examples of GSI include natural areas, trees, rain gardens and green roofs.

Planting a rain garden is fun and the benefits are numerous!

By planting a rain garden, you will beautify your home and neighborhood while protecting your property from the risk of flooding and drainage problems. Rain gardens provide habitat for pollinators and birds, help improve air quality, and reduce your carbon footprint. Because they use native plants, they require less maintenance than gardens planted with non-native species.

The Innovators Fund helps!

The fund is helping HRWC and our watershed partners increase the number of rain gardens in Southeast Michigan on a grand scale.

HRWC has joined a collaborative with Friends of the Rouge, Clinton River Watershed Council, Friends of the Detroit River, and the Alliance of Downriver Watersheds to scale-up GSI programs across Southeast Michigan. The group is developing an earned revenue model for a GSI program that will ultimately be self-sustaining. Program components may include rain garden design, training (coming next Spring!) and development, cooperative maintenance of GSI, and a one-stop shop for GSI products and services for the region.

The Innovators Fund was launched in 2019 by Bill and Mary Kinley and has been generously supported by clean water advocates throughout the watershed. It allows HRWC to develop innovative strategies in the fight for clean water like the



Small hands making a big contribution to a local rain garden. credit: HRWC

Green Stormwater Infrastructure Collaborative.

The river still needs advocates like you. If you are interested in exploring a gift to the Innovators Fund, please contact us!

—Wendy Palms

Thank You, 2021 Summer Interns!

Monitoring, outreach, and education initiatives

Twenty-seven superb students joined HRWC's summer intern program this year to work on several field monitoring, education, and outreach projects. Most were part of the Aquatic Field Internship Program. Focusing on the erodibility of local streambanks, these students collected data for an important update of a watershed management plan. They also worked to educate Scio Township residents on the presence of the newly found invasive stiltgrass, ran the Youth Snorkeling Program in collaborating with a local YMCA, kicked off HRWC's invasive European frog-bit monitoring project, and helped maintain local green stormwater infrastructure. Other summer interns joined HRWC to work on marketing and communications, water quality monitoring, and GIS and program research.

—Jason Frenzel

2021 Summer Interns

Adelaide Lammers
Alana Barton
Alex VanDeWeghe
Allegra Baird
Cade Smith
Elijah Richards
Evelyn Voss
Haley Essington
Isabel Nowak

Isabel Reyes
Jane Burnett
Jessica Goldberg
Jordan Hammerberg
Julia Trautmann
Keely Cox
Maaike Wielenga
Nicholas Psenicka
Olivia Koper

Patrick Pinkowski
Rachel Pastori
Rachele Cate
Rosalia Otaduy-Ramirez
Shannon Townson
Sonja Benjamins-Carey
Susan Shell
Vanessa Woolley
Yongwen Zheng



This deer skull is one of the many interesting things interns found while conducting field work. credit: K. Cox



nutrients. Some urban waste streams are being integrated with livestock waste streams to create nutrient products that can replace imported manufactured fertilizers.

Economic and climate change challenges

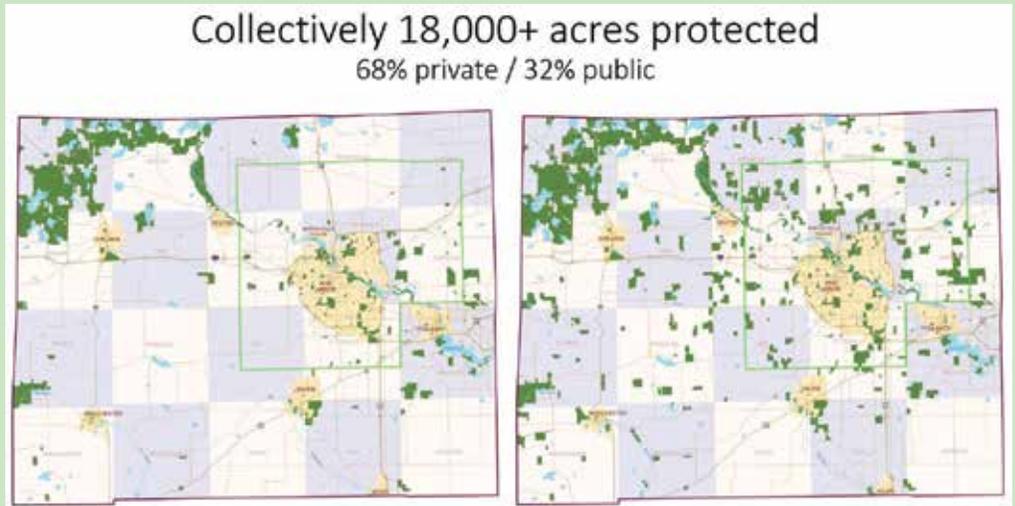
Farm enterprises are challenged on several fronts, in the Huron River watershed and beyond. Agricultural success in Michigan is largely dependent on the weather. The weather impacts timing of planting and harvest as well as decisions on what to plant in different locations. These decisions need to be made weeks or months in advance, well outside the scope of local weather forecasts. Farmers also face pressure from volatile global commodity markets where much of the supply of corn and soybeans are traded. However, specialty crop markets allow for more price stability and the inclusion of consumer values (such as organic, non-GMO, free-range, etc.) based on farmland stewardship.

Farmers are acutely experiencing the impacts of changing weather patterns due to climate change. In the Great Lakes region (as has been covered in previous articles and in Andrea's article on page 10). Individual storm events have become more intense, even as drought conditions are persisting for longer periods. Further, changing climate has increased both insect and disease pressure challenging both decision-making and profitability.

Finally, farm businesses are being financially pressured by the sprawl of development. Expanding suburbs and exurbs consume valuable farmland and further isolate remaining farms from neighboring farms that they can collaborate with to share expensive equipment, excess seed and other inputs, and beneficial wildlife such as pollinators. Further, the expectations of new residents on the farming fringe often conflict with activities associated with life on a farm.

Conservation and partnerships

Many local farmers are managing these challenges by focusing on



Washtenaw County protected lands (dark green) as of 2000 and 2020. Greater than 18,000 acres were protected in publicly or privately funded agreements over the 20-year period.
graphic: R. Long, Ann Arbor Greenbelt Program

improving soil health, diversifying markets they sell to, and participating in multiple initiatives focused on farmland preservation and water quality improvements. Local government funds aimed to preserve farmland and natural areas have helped farmers and other rural landowners protect over 18,000 acres of land in Washtenaw County alone over the last 20 years. Local food activities are also much more prevalent in the region compared to much of the Midwest. These cultural elements combined with Southeast Michigan's natural characteristics—fertile soil, abundant water, a temperate climate, and infrequent natural disasters—make the Huron River watershed a prime example of a region in which urban and rural communities can co-exist and benefit from one another.

Prospects for the future of farmlands in the watershed may also be bright. A group of conservation organizations, or Regional Conservation Partnership Program, that includes HRWC was recently awarded \$7.4 million in federal funding through the Natural Resources Conservation Service (NRCS). With matching funds from local organizations, \$15 million will be available to preserve additional farmland, help farmers engage

in water quality protections, and improve wildlife habitat. HRWC is matching funds through the Whole Farms for Clean Water program, which encourages farmers to implement practices that result in both improved profitability and reduced nutrient runoff to waterbodies. Farmers are paid for the amount of nutrients that they save from running off into local waterways, effectively giving them a double benefit by reducing the need to purchase fertilizer. Many local farmers are already reducing nutrient runoff by using cover crops, targeted fertilizer application, and stream buffering practices through programs of the NRCS, Farm Services Agency, and Michigan Agriculture Environmental Assurance Program.

Many farmers participating in these programs have found that improving soil health, diversifying crops, and reducing fertilizer application allows them to earn a greater profit, while reducing the risks of soil erosion and nutrient runoff to our local waterways. HRWC is proud to work with these "agri-innovators" to protect the watershed.

—Ric Lawson



is not within their normal migratory range (though there are many in the Westeros watersheds).

Termed by biologists as “generalists,” crows can take advantage of nearly any kind of landscape, from open fields to the densest cities. They gather in flocks (“murders”) of up to 20,000, as they do in Ann Arbor every winter (last winter they roosted at the Forest Hill Cemetery on Geddes and S. Observatory). This gathering of multiple families into large murders occurs over winter, as crows seek warmth and protection from predators.

Most of the year crows live in families, with parents (mated for life) and other relatives helping raise young and build nests. Families hunt and forage together, with different members in different roles. Some do the foraging while others serve as lookouts.

Crows are the “brainiacs” of the bird world. They can mimic other animals, count, problem-solve, and use tools. Even ants can serve as tools for crows. Called “anting behavior,” a crow will stand on an ant hill and let the ants crawl all over it. The ants release formic acid, which makes them palatable and cleans the crow of parasites. In addition, crows have

been observed hunting cooperatively, using complex behaviors such as herding rabbits into a road and then cleaning up the resulting roadkill.

Crows can even recognize individual people, as observed by researchers studying crow intelligence. Researchers wore Neanderthal masks while handling trapped and banded crows. When the same researchers, unmasked, walked around the areas where they did the banding, there was no response. But when they walked around the area wearing the masks, the crows, joined by other crows who had not been captured, dive bombed and cawed at them. As time went on and the banded crows had passed away, the descendent crows continued harassing only the individual researchers they recognized—they learned to “hate” the “bad” humans from their past “kidnappings.” This is an indication that crows learn culture and do not merely act on instinct. Researchers have also found that they have big brains for their size; including larger forebrains than other birds, similar to primates. This may explain why these birds display analytical thought, sensory processing, and flexible behavior.

Crows: pests or ecosystem service providers?

Crows have a bad reputation for eating up farm crops, leading to (usually ineffective) scarecrows dotting fields. In fact, researchers have found that the ecological benefits crows provide to agriculture outweigh the negative impacts. In addition to scavenging garbage and devouring small rodents, crows also feast on common agricultural pests. One crow family of 5-8 birds can eat 40,000 insects during one season. So, it may be just-as-well that scarecrows fail to scare crows away.

Many cities have worked hard to keep crows from forming their wintertime murders, including setting off fireworks to keep crows from massing in downtown areas. However, crows provide benefits here too in the form of roadkill clean-up and garden pest control.

Crows have also served as early warning beacons for West Nile Virus

outbreaks—they are very vulnerable to it. The U.S. has lost an average of 45% of the crow population since the first West Nile outbreak. Public health officials can get a jump on protecting human populations by observing an outbreak in the local crow population. In the Ann Arbor area, crows took a hit from West Nile in the 2000’s but seem to be slowly recovering to historic numbers. (Crows cannot spread West Nile Virus to humans.)

So, let’s retire those Neanderthal masks and commit to appreciating the American crow!

—Kris Olsson

Interested in learning more about crows?

These resources are a great place to start!

Crows are too clever to fall for scarecrows’ bluster, *The Tribune*, October 12, 2016
www.sanluisobispo.com/news/local/community/cambrian/cambrian-opinion/article107710487.html

Counting crows in Ann Arbor, *The Washtenaw Voice*, February 9, 2021
www.washtenawvoice.com/2021/02/09/counting-crows-in-ann-arbor/

Meet the misunderstood American crow, *Times Herald*, September 29, 2019
www.thetimesherald.com/story/opinion/2019/09/29/meet-misunderstood-american-crow/3812070002/

Meet the Bird Brainiacs: American Crow, *Audubon*, March-April 2016
www.audubon.org/magazine/march-april-2016/meet-bird-brainiacs-american-crow



Crows are intelligent, resourceful, and very social. credit - cover and above: Jocelyn Anderson Photography

The Huron River Watershed

MISSION

The Huron River Watershed Council protects and restores the river for healthy and vibrant communities.

VISION

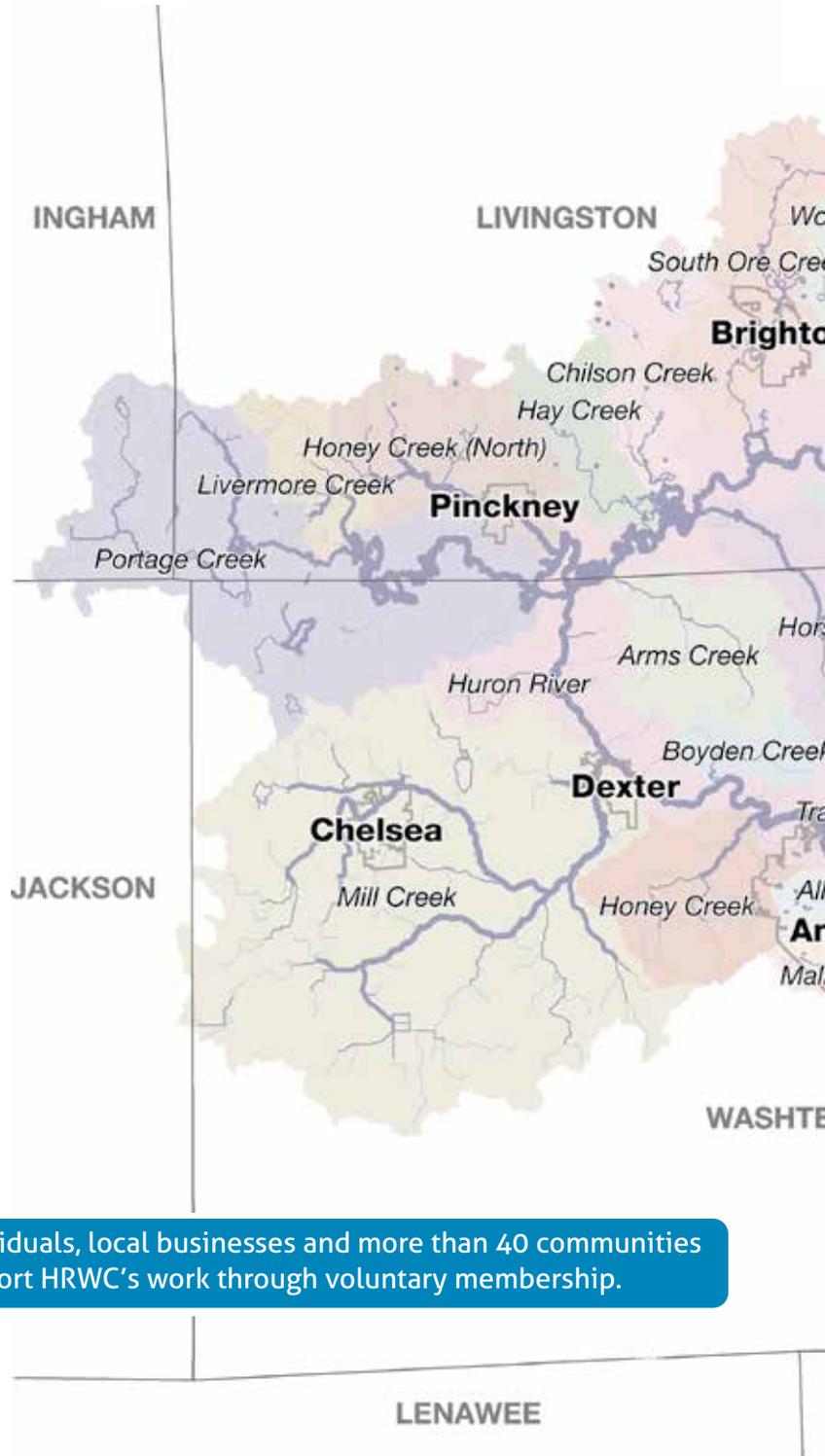
We envision a future of clean and plentiful water for people and nature where citizens and government are effective and courageous champions for the Huron River and its watershed.

CORE VALUES

We work with a collaborative and inclusive spirit to give all partners the opportunity to become stewards.

We generate science-based, trustworthy information for decision makers to ensure reliable supplies of clean water and resilient natural systems.

We passionately advocate for the health of the river and the lands around it.



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Individuals, local businesses and more than 40 communities support HRWC's work through voluntary membership.

Visit www.hrwc.org for detailed maps, monitoring data and creekshed status updates.





photo: E. Wolf

HRWC STAFF

Daniel A. Brown
 Watershed Planner
 dbrown@hrwc.org

Anita Daley
 Marketing Executive
 adaley@hrwc.org

Rebecca Esselman
 Executive Director
 resselman@hrwc.org

Jason Frenzel
 Stewardship Coordinator
 jfrenzel@hrwc.org

Jennifer Kangas
 Operations Director
 jkangas@hrwc.org

Pam Labadie
 Marketing Director
 plabadie@hrwc.org

Kate Laramie
 Watershed Ecology Associate
 klaramie@hrwc.org

Ric Lawson
 Watershed Planner
 rlawson@hrwc.org

Kris Olsson
 Watershed Ecologist
 kolsson@hrwc.org

Andrea Paine
 Watershed Planning Associate
 apaine@hrwc.org

Wendy Palms
 Development Director
 wpalms@hrwc.org

Eric Robinson
 Watershed Planning Fellow
 erobinson@hrwc.org

Marisa Salice
 Marketing and Outreach Associate
 msalice@hrwc.org

Allison Schneider
 Development Associate
 aschneider@hrwc.org

Paul Steen
 Watershed Ecologist
 psteen@hrwc.org

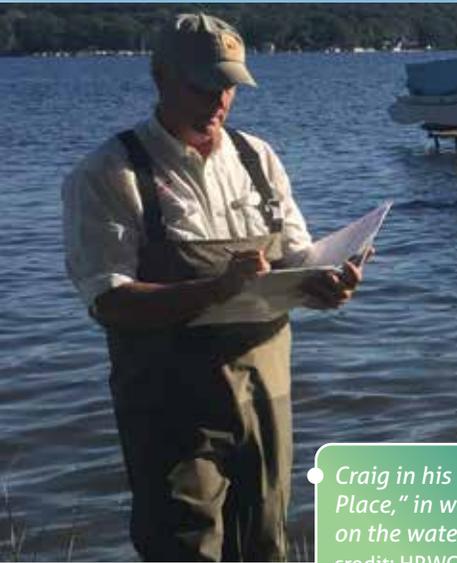


1100 North Main Street, Suite 210
 Ann Arbor, Michigan 48104
 (734) 769-5123
www.hrwc.org

Volunteer Spotlight • Craig Kivi



credit: C. Hieber



● Craig in his "Happy Place," in waders, on the water!
credit: HRWC

Craig Kivi, Portage Lake resident and owner of Golden Drake Realty, is not your average real estate broker. Craig first contacted HRWC to arrange a natural area field assessment on a client's property in Hamburg Township. His business model includes "the selection, validation, purchase, and protection of wetland properties with high ecological

value." Since that first inquiry, Craig has purchased two properties, converting them to preserves, convinced a client to explore protection opportunities for their property, and personally removed 860 pieces of plastic from Portage Lake. "I could not stand to see that plastic in the stomach of the lake, so I took it out of her stomach. It sickened me. It hit me at a very basic level."

Golden Drake Realty specializes in lakefront properties throughout Livingston and Washtenaw counties. Craig created a "Five Best Practices" brochure for clients, lake associations, and other real estate offices to educate lakefront property owners on the benefits of eliminating poisons and fertilizers from their property and allowing natural vegetation buffers to grow along their shores.

Working in real estate exposed him to lakes and wetlands all over the area. A love of nature garnered from his youth prompted Craig to enroll in Michigan State University's Lake and Stream Leadership Institute, where "You get to wade around with [MSU

biologists]. They mean business, too. I give Doc Latimore, the staff, and MSU full credit for creating a conservation monster in me from this incredible program."

After an HRWC field assessment of two properties—which included 2,700 feet of the last remaining natural shoreline on Portage Lake—revealed an ecologically diverse wetland marsh and woodland, Craig decided to purchase the properties and create the Louis P. Kivi and the Norman A. Wood natural shoreline preserves. He credits the field assessments for confirming his decision. "On a non-scientist level I may think properties are important," he says, "then I call HRWC to confirm. HRWC has the credentials. These two preserves are not the last ones I'm going to own. This is my process now," he continues. "I've created Natural Shorelines Forever (NSF), a nonprofit conservation group, to keep finding similar properties, have HRWC do field assessments, and then have NSF protect them."

—Kris Olsson

Milestone Reached in Dioxane Cleanup

A newer, stricter exposure limit takes effect

In May, the decades-long cleanup effort of the 1,4-dioxane groundwater plume affecting Ann Arbor, Scio Township, and Ann Arbor Township reached a substantial milestone. Washtenaw County Circuit Judge Tim Connors ordered a new initial cleanup plan, which was negotiated between Gelman Sciences, the State of Michigan/EGLE, and intervenors seeking a more rigorous cleanup: Washtenaw County, Scio Township, the City of Ann Arbor, and HRWC. HRWC's intervention in the case set a precedent for local conservation

groups' involvement in cleanup negotiation.

Most importantly, the new cleanup plan puts into effect a newer, stricter exposure limit for dioxane in groundwater. The new limit was set after the last cleanup plan was agreed to by the state and Gelman. The old standard was 85 parts per billion, a level much higher than what the U.S. Environmental Protection Agency recommends as safe. The new allowable level is 7.2 parts per billion. Also critical is that all the intervening parties will continue to

be a part of the case going forward. That will provide additional local accountability to Gelman and state regulators.

As outlined in the plan, Gelman will be required to implement additional cleanup and monitoring activities aimed at keeping the plume from spreading. While there is no perfect option for cleaning up the Gelman dioxane plume, HRWC supports this outcome as a responsible strategy to avoid continued delay and better protect residents of the watershed.

—Daniel Brown



Leave No Trace Visits Huron River Water Trail

Empowering recreation users through stewardship

Through the summer, HRWC has been working with the Leave No Trace Center for Outdoor Ethics to learn how to improve stewardship efforts and encourage better behaviors along the Huron River Water Trail. Leave No Trace (LNT) is a global leader in understanding why people behave the way they do in the outdoors and how people can be encouraged to act in ways that support nature. If you spend time in national or state parks, chances are you've seen practices, signage or other materials developed by LNT.

Increased recreational use of the Huron River

In recent years, HRWC has seen recreation on and adjacent to the river increase dramatically with more investment in land and water trail infrastructure. On top of that, water trail use skyrocketed during the pandemic as people sought new activities outside.

To understand how people interact with the river, the project used an online survey and a field survey. LNT sent the online survey to people who manage the river or who have maintained the water trail over time. HRWC led LNT on a field survey to observe the public interacting with the river. The results of both surveys are still being analyzed, but it's clear that the Huron River supports a wide range of recreation. The team also collected a significant amount of information to help improve water trail stewardship in the future. The field survey called for touring the entire Huron Water Trail and talking with several key partners.

Day-by-day assesment

On Day 1, the project focused on the Upper Huron River from Proud Lake State Rec Area through the Chain of Lakes in Livingston County. LNT got to pick the brains of planners and supervisors from the Huron-Clinton Metroparks, Island Lake State Recreation Area, and the Village of Milford. These water trail partners provided valuable information and insight into how they each provide services, keep people safe, and

steward the parts of the river they manage.

On Day 2, the team explored the Lower Huron River, from French Landing Dam at the bottom of Belleville Lake to Lake Erie. Flat Rock's economic development director, Liz Hendley, talked with LNT at length and detailed exciting improvements to several sites along the river near Flat Rock. A former DNR boat launch will be redesigned and rebuilt with both anglers and paddlers in mind. These changes, along with others in the Lower Huron, should improve access and safety. The portage around French Landing Dam was undoubtedly the most abused location along the entire river. HRWC and partners have invested significant effort to improve this challenging portage, but this site still warrants significant improvement and attention in coming years.

On Day 3, a 90-degree Saturday, the team explored the Middle Huron from Portage Lake through Ypsilanti. Paddlers of the Huron Water Trail know this stretch is the most popular,

and that it can get exceptionally crowded on hot summer weekends. LNT was eager to see the river under exactly those high use conditions. The Ann Arbor liveries at Argo and Gallup Parks were extremely busy. Crowds had filled the entire length of the Argo Cascades, but aside from heavy congestion in the neighborhood around Argo Park, negative impacts to the river and natural features were minimal, an encouraging finding. Cheryl Saam, Recreation Supervisor at the City of Ann Arbor, graciously shared her encyclopedic knowledge of the livery operations and gave LNT plenty of food for thought.

Working with LNT has already provided invaluable insight and numerous suggestions for improving stewardship support and messaging along the water trail. HRWC is eager to hear LNT's recommendations, and we're excited to empower recreational users of the trail to become stewards and ambassadors for their home river.

—Daniel Brown



Touring the river corridor with Ben Lawhon from Leave No Trace Center for Outdoor Ethics during a June field study. credit: HRWC



Preparing for a Wild Ride

A future of extreme swings from drought to flooding

h2oheroes
plant Michiganders

Native plants with deep roots filter polluted runoff and keep water clean.

Huron River Watershed Council
Learn more at www.hrwc.org/h2oheroes

MOVE WATER TO MITIGATE FLOODING

Plant a Rain Garden—Rain gardens capture, hold, and soak in rain runoff. They are designed for areas where rainwater habitually pools or to which it is deliberately channeled. Their deep-rooted native plants absorb water and filter pollutants.

Plant Trees—Trees soak up stormwater and intercept rainwater in their canopies. Trees planted along streams and on slopes prevent erosion and form a valuable buffer system, which filters pollutants, and slows and cools down runoff.

SAVE WATER DURING DROUGHT

Let Your Grass Rest—During high heat or drought, stop watering your lawn. Grass can go dormant and then rebound to green lushness when cooler weather and rain returns.

Mow High—Raise your lawn mower blade to at least three inches. Longer grass promotes deeper root growth, resulting in a more drought resistant lawn, reduced evaporation, and fewer weeds.

Be Water Smart—For those with an irrigation system, install weather-based smart irrigation controllers that are properly programmed and maintained.

Until mid-June, the United States Drought Monitor showed moderate to severe drought conditions for most of Michigan’s Lower Peninsula. With rainfall deficits of nearly five inches, the Huron River watershed was plagued with low water levels and flows throughout the spring and early summer, impairing river recreation and stifling agricultural production. Then came late June, which quickly brought multiple inches of rain to Southeast Michigan over a matter of days and left some areas overwhelmed with flooding.

Challenges of a changing climate

Extreme fluctuation between drought and flood conditions is the new normal for the Midwest. With changing climate comes increases in temperature, evaporation, and storm intensity, leading to precipitation extremes as well as volatile water levels and flows along the Huron River watershed. As powerful and sporadic storms deliver a greater proportion of the area’s annual precipitation, we are less able to rely on gentle sprinkles throughout the growing season to keep the Huron and its tributaries within previously understood “normal” ranges. Instead, our new normal is an oscillation between extreme highs and lows as seen this past spring and summer, with more instances of overflowing banks following intense rainfall and dwindling water levels during dry periods of high heat.

Building resilience

The variability in weather due to climate change calls for localized resilience that withstands and adapts to these extremes. As we experience changing weather dynamics, we can implement at-home actions to help conserve water during drought and mitigate flooding when faced with intense storms.

Many actions can ensure household resilience in both high and low precipitation scenarios. By installing a rain barrel, homeowners can collect stormwater runoff from rooftops and slow the flow of water that enters the Huron through storm drains. That captured rainwater can water dry plants and grass during periods of low precipitation, conserving water and reducing water bills.

Landscaping with native plants also promotes resilience to extreme precipitation swings. With their massive root systems reaching up to 15 feet deep, native plants create channels deep in the soil, allowing runoff from storms to soak into the ground and recharge water tables rather than running off into nearby lakes and streams. Native plants are also resistant to drought conditions and can thrive without watering or fertilizing. In fact, it is estimated that homeowners can experience a savings of about \$4,000 per acre over a 10-year period when compared to the cost of maintaining turf grass. For lakeshore property owners, native plants are an excellent way to mitigate shoreline erosion by stabilizing banks amidst both high and low water level conditions, and—unlike turf grass—taller native plants deter geese!

continued on next page



calendar
of events



HRWC Events and Workshops

SEPTEMBER • OCTOBER • NOVEMBER • 2021

SUDS on the RIVER!

Thursday, September 9, 6-9pm

Now that it is safe for outdoor gatherings, we are thrilled to host friends and supporters on the shores of the Huron River once again. Enjoy gourmet delights and locally crafted brews, paddle a canoe, enjoy acoustic music around a campfire, and meet up with old friends while making new ones: www.hrwc.org/suds
Details and tickets: rbfoster@hrwc.org, (734) 769-5123

River RoundUp

Saturday, October 2

Watch for an email! It is likely that our 2021 Fall bug hunt will be invitation-only. New volunteers may sign up for email announcements and will be happily invited to join as we open events to the public: www.hrwc.org/volunteer/sign-up

HRWC Board Meeting

Thursday, October 21, 5:30pm

Contact: Jennifer at jkangas@hrwc.org

SAVE THE DATE!

Winter
Stonefly
Search

January 22



Connect with us on Facebook, Twitter and Instagram—use #huronriver to mark your posts!

Preparing for a Wild Ride *continued from previous page*

A community approach

Communities can work together to achieve even greater impact. For example, Dexter has adopted outdoor water restrictions that ensure drinking water wells have ample supply during dry periods. Green Oak Township protects forests and wetlands along its Huron River tributaries to help maintain healthy water levels in the river.

While weather patterns are becoming less familiar, there are changes that can be made to adapt to changing conditions and reduce impacts at the household level that also benefit the river.

—Andrea Paine

Rain gardens are a great tool for flood mitigation.
credit: HRWC



Make a Gift for Ages to Come

Contact Wendy Palms about your planned gift to HRWC: wpalms@hrwc.org, (734) 769-5123



Huron
River
Watershed
Council



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1100 North Main Street
Ann Arbor, MI 48104

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You Are Invited!

*Celebrate with us
as we return to our home river,
the Huron.*

**Thursday, September 9
6-9pm**

Enjoy locally brewed artisanal beer
and gourmet fare from your favorite
local chefs. Demo a kayak or canoe.
Learn to cast a fly rod. Enjoy live
acoustic music and friends around a
campfire. **Covid-safe precautions in
an open-air environment!**

Tickets available at [HRWC.org](https://hrwc.org)

Proceeds support HRWC



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Photo by John Lloyd